

Title (en)
Au BONDING WIRE FOR SEMICONDUCTOR ELEMENT

Title (de)
AU-BONDIERUNGSDRAHT FÜR EIN HALBLEITERELEMENT

Title (fr)
FIL DE CONNEXION EN OR POUR ÉLÉMENT SEMI-CONDUCTEUR

Publication
EP 1830398 A4 20120606 (EN)

Application
EP 05809380 A 20051122

Priority
• JP 2005021416 W 20051122
• JP 2004343154 A 20041126

Abstract (en)
[origin: EP1830398A1] Issues to be solved Au bonding wire for semiconductor device should be provided in circumstances such as reducing the diameter of bonding wire to less than 23 μ m, squashed ball with superior roundness should be formed and with strong tensile strength endurable against wire flow. Means as solution Au bonding wire for semiconductor device, consisting of Au matrix and functional additives, containing: said Au matrix alloy including 3-15 mass ppm of Be, 3-40 mass ppm of Ca, and 3-20 mass ppm of La and roundness of squashed ball said Au alloy is 0.95 -1.05.

IPC 8 full level
H01L 23/49 (2006.01); **C22C 5/02** (2006.01)

CPC (source: EP US)
C22C 5/02 (2013.01 - EP US); **H01L 24/43** (2013.01 - EP US); **H01L 24/45** (2013.01 - EP US); **H01L 2224/05624** (2013.01 - EP US); **H01L 2224/43848** (2013.01 - EP US); **H01L 2224/45015** (2013.01 - EP US); **H01L 2224/45144** (2013.01 - EP US); **H01L 2224/4845** (2013.01 - EP US); **H01L 2224/48624** (2013.01 - EP US); **H01L 2224/85207** (2013.01 - EP US); **H01L 2924/00011** (2013.01 - EP US); **H01L 2924/01005** (2013.01 - EP US); **H01L 2924/01012** (2013.01 - EP US); **H01L 2924/01013** (2013.01 - EP US); **H01L 2924/01014** (2013.01 - EP US); **H01L 2924/0102** (2013.01 - EP US); **H01L 2924/01027** (2013.01 - EP US); **H01L 2924/0103** (2013.01 - EP US); **H01L 2924/01031** (2013.01 - EP US); **H01L 2924/01032** (2013.01 - EP US); **H01L 2924/01033** (2013.01 - EP US); **H01L 2924/01038** (2013.01 - EP US); **H01L 2924/01041** (2013.01 - EP US); **H01L 2924/01047** (2013.01 - EP US); **H01L 2924/0105** (2013.01 - EP US); **H01L 2924/01051** (2013.01 - EP US); **H01L 2924/01057** (2013.01 - EP US); **H01L 2924/01058** (2013.01 - EP US); **H01L 2924/01059** (2013.01 - EP US); **H01L 2924/01063** (2013.01 - EP US); **H01L 2924/01064** (2013.01 - EP US); **H01L 2924/01078** (2013.01 - EP US); **H01L 2924/01079** (2013.01 - EP US); **H01L 2924/01082** (2013.01 - EP US); **H01L 2924/01083** (2013.01 - EP US); **H01L 2924/01205** (2013.01 - EP US); **H01L 2924/10253** (2013.01 - EP US); **H01L 2924/14** (2013.01 - EP US); **H01L 2924/19043** (2013.01 - EP US); **H01L 2924/20751** (2013.01 - EP US); **H01L 2924/20752** (2013.01 - EP US); **Y10T 428/12431** (2015.01 - EP US)

C-Set (source: EP US)
1. **H01L 2224/45144 + H01L 2924/01014**
2. **H01L 2224/45144 + H01L 2924/01031**
3. **H01L 2224/45144 + H01L 2924/0105**
4. **H01L 2224/45144 + H01L 2924/01051**
5. **H01L 2224/45144 + H01L 2924/01083**
6. **H01L 2224/45144 + H01L 2924/01039**
7. **H01L 2224/85207 + H01L 2924/20105**
8. **H01L 2224/85207 + H01L 2924/20106**
9. **H01L 2224/43848 + H01L 2924/2011**
10. **H01L 2224/43848 + H01L 2924/20111**
11. **H01L 2224/45015 + H01L 2924/20752**
12. **H01L 2224/45144 + H01L 2924/0102**
13. **H01L 2224/45015 + H01L 2924/20751**
14. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01057**
15. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/0102 + H01L 2924/01057 + H01L 2924/01058**
16. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01057 + H01L 2924/01058**
17. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01057 + H01L 2924/01063**
18. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01012 + H01L 2924/0102 + H01L 2924/01057**
19. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01014 + H01L 2924/0102 + H01L 2924/01057**
20. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01031 + H01L 2924/01057**
21. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01051 + H01L 2924/01057**
22. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/0105 + H01L 2924/01057**
23. **H01L 2224/45144 + H01L 2924/01004**
24. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01057 + H01L 2924/01083**
25. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01012 + H01L 2924/0102 + H01L 2924/01039 + H01L 2924/01057**
26. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01014 + H01L 2924/0102 + H01L 2924/01039 + H01L 2924/01057**
27. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01031 + H01L 2924/01039 + H01L 2924/01057**
28. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01012 + H01L 2924/0102 + H01L 2924/01057 + H01L 2924/01058**
29. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01012 + H01L 2924/0102 + H01L 2924/01057 + H01L 2924/01063**
30. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01014 + H01L 2924/0102 + H01L 2924/01057 + H01L 2924/01058**
31. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01014 + H01L 2924/0102 + H01L 2924/01057 + H01L 2924/01063**
32. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01031 + H01L 2924/01057 + H01L 2924/01058**
33. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01031 + H01L 2924/01057 + H01L 2924/01058 + H01L 2924/01063**
34. **H01L 2224/45144 + H01L 2924/01057**
35. **H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01012 + H01L 2924/01014 + H01L 2924/0102 + H01L 2924/01031 + H01L 2924/01057 + H01L 2924/01058**

36. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01051 + H01L 2924/01057 + H01L 2924/01058
37. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01051 + H01L 2924/01057 + H01L 2924/01063
38. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/0105 + H01L 2924/01057 + H01L 2924/01058
39. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/0105 + H01L 2924/01057 + H01L 2924/01063
40. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01057 + H01L 2924/01058 + H01L 2924/01083
41. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01057 + H01L 2924/01063 + H01L 2924/01083
42. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/0105 + H01L 2924/01051 + H01L 2924/01057 +
H01L 2924/01058 + H01L 2924/01083
43. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01012 + H01L 2924/0102 + H01L 2924/01039 + H01L 2924/01057 +
H01L 2924/01063
44. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01012 + H01L 2924/0102 + H01L 2924/01039 + H01L 2924/01057 +
H01L 2924/01058
45. H01L 2224/45144 + H01L 2924/01204
46. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01057 + H01L 2924/01058 + H01L 2924/01059 +
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48. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01013 + H01L 2924/0102 + H01L 2924/01039 + H01L 2924/01057 +
H01L 2924/01058
49. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01005 + H01L 2924/0102 + H01L 2924/01039 + H01L 2924/01057 +
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H01L 2924/01058
51. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/0105 + H01L 2924/01051 + H01L 2924/01057 +
H01L 2924/01063
52. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/01012 + H01L 2924/0102 + H01L 2924/0105 + H01L 2924/01057 +
H01L 2924/01058 + H01L 2924/01064 + H01L 2924/01078
53. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/0105 + H01L 2924/01057 + H01L 2924/01063 +
H01L 2924/01083
54. H01L 2224/45144 + H01L 2924/013 + H01L 2924/01004 + H01L 2924/0102 + H01L 2924/01039 + H01L 2924/01057 + H01L 2924/01058
55. H01L 2224/45144 + H01L 2924/013 + H01L 2924/00013
56. H01L 2224/45144 + H01L 2924/01205
57. H01L 2224/48624 + H01L 2924/00
58. H01L 2224/45144 + H01L 2924/01005
59. H01L 2224/45144 + H01L 2924/01013
60. H01L 2224/45144 + H01L 2924/01048
61. H01L 2224/45144 + H01L 2924/01059
62. H01L 2224/45144 + H01L 2924/01062
63. H01L 2224/45144 + H01L 2924/01064
64. H01L 2924/00011 + H01L 2924/01006
65. H01L 2224/45144 + H01L 2924/01049
66. H01L 2224/45144 + H01L 2924/01058
67. H01L 2224/45144 + H01L 2924/01063
68. H01L 2224/45144 + H01L 2924/01012

Citation (search report)

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- [X] EP 0761831 A1 19970312 - TANAKA ELECTRONICS IND [JP]
- [XI] JP 2000040710 A 20000208 - SUMITOMO METAL MINING CO
- [XI] JP 2000144282 A 20000526 - MITSUBISHI MATERIALS CORP
- [XI] JP H07335686 A 19951222 - NIPPON STEEL CORP
- See references of WO 2006057230A1

Designated contracting state (EPC)

DE FR GB IT NL

DOCDB simple family (publication)

EP 1830398 A1 20070905; EP 1830398 A4 20120606; CN 100501956 C 20090617; CN 101065838 A 20071031; JP 4117331 B2 20080716;
JP WO2006057230 A1 20080605; KR 100929432 B1 20091203; KR 20070084296 A 20070824; MY 140911 A 20100129;
TW 200618146 A 20060601; TW I362078 B 20120411; US 2007298276 A1 20071227; US 8440137 B2 20130514; WO 2006057230 A1 20060601

DOCDB simple family (application)

EP 05809380 A 20051122; CN 200580040707 A 20051122; JP 2005021416 W 20051122; JP 2006547776 A 20051122;
KR 20077011168 A 20051122; MY PI20055439 A 20051122; TW 94141270 A 20051124; US 79132905 A 20051122